ENVIRONMENTAL Fact Sheet

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

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New Hampshire's Public Beach Inspection Program

Introduction

DES's Public Beach Inspection Program has monitored public beaches for over 20 years in response to potential health threats associated with water-borne pathogens. These pathogens are responsible for water-borne diseases such as gastroenteritis, giardiasis, cryptosporidiosis, and cholera. DES also recognizes the threat of toxic cyanobacteria (blue-green algae) at public beaches. Cyanobacteria are capable of producing toxins known to target the liver and central nervous system and can cause irritations to the skin and mucous membranes. As the use of New Hampshire's inland and coastal waters grows, the continued goal of the program is to protect public health and inform the public of potential health risks at public beaches.

Program Overview

The Public Beach Inspection Program monitors and samples beaches throughout the state from mid-June through Labor Day. About 170 public bathing beaches on lakes, rivers, and impoundments are inspected on a monthly basis, while about 15 coastal and estuarine beaches are inspected on a weekly or bi-weekly basis during the swim season. DES Beach Inspectors collect two to three bacteria samples from each beach depending upon the length of the bathing area. Also, DES inspects on-site facilities, the bathing area, and surrounding areas for the presence of potential health threats, and confers with lifeguards and the public to address concerns.

In addition to the monitoring and sampling of over 180 public beaches, the program is responsible for issuing advisories when state water quality standards are exceeded.

Advisories are currently issued for high bacteria levels and/or the presence of a toxic cyanobactieral scum at public bathing areas. For more information on toxic algae, refer to DES fact sheet WD-WMB-10 "Cyanobacteria in New Hampshire Waters, Potential Dangers of Blue-Green Algal Blooms".

Public Beaches and Bacteria

Beaches located on inland bodies of water are sampled for the presence of the indicator bacteria *E. coli*, while all coastal bodies of water are sampled for the presence of the indicator bacteria Enterococci. These bacteria are found in the intestines of warm-blooded animals, including humans. Since both are present in fecal material, and are easily cultured within 24 hours, they are two of the best indicators of fecal contamination in surface waters. Their presence can therefore indicate the presence of other pathogenic organisms in surface waters.

Since DES is aware of the health risk to the public when recreating at public bathing beaches, it has adopted criteria recommended by the U.S. Environmental Protection Agency (EPA) for bacteria in surface waters. The state standard for freshwater beaches is 88 counts/100 mL for *E. coli*, while the standard for coastal waters is 104 counts/100 mL for Enterococci. Statistically, as the level of indicator bacteria increase, the potential for the public to contract a water-borne disease increases. Beaches where bacteria levels exceed state standards are notified within 24-48 hours and advisories are issued to the public. The beaches are immediately re-sampled until bacteria levels fall below the standards, upon which, advisories are removed.

Beaches where a toxic cyanobacterial scum is identified and the alga represents greater than 50 percent of the cell count are issued an advisory within 24 hours. The beach is re-sampled until dominance of the toxin producing cyanobacteria falls below 50 percent of the cell count, upon which advisories are removed.

Sources of Bacteria at Public Beaches

Common sources of bacterial loads to public beaches include waterfowl, domestic animals, agricultural practices, lack of or improperly functioning toilet facilities, faulty septic systems, non-point sources, and humans.

When swimming at a beach look for signs that may reflect poor water quality. Check water clarity, use your nose to determine foul odors, check any available records, look for waterfowl, and check for floating substances in the water.

Public Information

Additional program and advisory information can be found on the Beach Program's website at www.des.state.nh.us/Beaches or the Earth 911 website www.earth911.org/WaterQuality/index.asp. Also, information regarding New Hampshire's public beaches may also be found on EPA's Beach Watch website at www.epa.gov/waterscience/beaches/index.html. For more information regarding the Public Beach Inspection Program, please contact Jody Connor, DES Limnology Center, at (603) 271-3414.